

AMENDMENTS TO THE CLAIMS

1-49. (Canceled)

50. (Currently Amended) A method for using ~~forming~~ a sensor array configured to detect ~~multiple~~ analytes in a fluid, comprising:

~~forming~~ providing a plurality of sensing elements ~~having a predetermined shape,~~
~~wherein forming the sensing element comprises coupling~~ comprising a receptor
coupled to a polymeric material body, said polymeric material having a non-
spherical shape and wherein the receptor is at least partially encapsulated within
the polymeric body, and wherein a first portion of the sensing elements are
configured to produce a signal in the presence of a first analyte, and wherein a
second portion of the sensing elements are configured to produce a signal in the
presence of the second analyte and wherein the first and second portions of the
sensing elements have predetermined shapes, and wherein the shape of the first
portion of the sensing elements is different from the shape of the second portion
of the sensing elements; and

placing the sensing elements in a liquid composition. ~~;~~ and

~~curing the liquid composition to form a supporting member, wherein the sensing~~
~~elements are at least partially embedded within the cured liquid composition, and~~
~~wherein the sensing elements are disposed on or at an exterior surface of the cured~~
~~liquid composition.~~

51-75. (Canceled)

76. (Previously Presented) A method of sensing multiple analytes in a fluid comprising:

providing a sensor array comprising a plurality of sensing elements at least partially embedded within a supporting member comprising a cured liquid composition, wherein each of the sensing elements comprises a receptor coupled to a polymeric body, and wherein the receptor is at least partially encapsulated within the polymeric body, and wherein the sensing elements are disposed on or at an exterior surface of the cured liquid composition, and wherein a first portion of the sensing elements are configured to produce a signal in the presence of a first analyte and wherein a second portion of the sensing elements are configured to produce a signal in the presence of a second analyte, and wherein the first and second portions of the sensing elements have predetermined shapes, and wherein the shape of the first portion of the sensing elements is different from the shape of the second portion of the sensing elements;

passing a fluid over the sensor array;

monitoring a spectroscopic change of the sensing elements as the fluid is passed over the sensor array, wherein the spectroscopic change is caused by the interaction of the analyte with the sensing element;

and determining the shape of the sensing elements that undergo a spectroscopic change.

77-97. (Canceled)

98. (Currently Amended) The method of claim 50, wherein the shape of each of said forming a sensing elements is different comprises polymerizing a monomer composition.

99. (Previously Presented) The method of claim 50, wherein placing the sensing element in a liquid composition comprises placing the sensing elements at the surface of the liquid composition.

100. (Currently Amended) The method of claim 50, wherein the polymeric material of the sensing element comprises a polymeric resin.

101. (Currently Amended) The method of claim ~~100~~ 50, wherein the polymeric resin sensing element comprises a polyethylene glycol hydrogel resin.

102. (Previously Presented) The method of claim 50, wherein the receptor is configured to produce a signal when the sensing element interacts with the analyte during use.

103. (Currently Amended) The method of claim 50, wherein the ~~polymeric body comprises a~~ non-spherical shape is selected from the group consisting of crosses, squares and triangles.

104. (Currently Amended) The method of claim ~~101~~ 50, wherein the ~~polymeric body comprises a~~ polyethylene glycol hydrogel resin is cast in a liquid form and cured polymer.

105. (Currently Amended) The method of claim 50, wherein the polymeric material ~~body~~ comprises a polyethylene glycol diacrylate.

106. (Canceled)

107. (Canceled)

108. (Previously Presented) The method of claim 50, wherein the receptor comprises a nucleic acid.

109. (Previously Presented) The method of claim 76, wherein the sensing element comprises a polymer.

110. (Previously Presented) The method of claim 76, wherein the sensing element comprises a polyethylene glycol hydrogel.
111. (Previously Presented) The method of claim 76, wherein the receptor is configured to produce a signal when the sensing element interacts with the analyte during use.
112. (Canceled)
113. (Previously Presented) The method of claim 76, wherein the polymeric body comprises a non-spherical shape.
114. (Previously Presented) The method of claim 76, wherein the polymeric body comprises a polyethylene glycol polymer.
115. (Previously Presented) The method of claim 76, wherein the polymeric body comprises a polyethylene glycol diacrylate.
116. (Canceled)
117. (Canceled)
118. (Canceled)
119. (Currently Amended) The method of claim 50, wherein the forming a plurality of sensing elements are formed by mixing ~~having a predetermined shape~~ comprises: ~~forming a mixture of~~ a receptor in a monomer composition, and curing the mixture into a non-spherical ~~predetermined~~ shape.
120. (Previously Presented) The method of claim 76, wherein the plurality of sensing elements having a predetermined shape are formed by the method comprising: forming a

mixture of a receptor in a monomer composition, and curing the mixture into a predetermined shape.